



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,616	12/18/2001	George K. Kodokian	FA0984 US NA	3861

23906 7590 06/23/2006

E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
BARLEY MILL PLAZA 25/1128
4417 LANCASTER PIKE
WILMINGTON, DE 19805

EXAMINER

BOYKIN, TERRESSA M

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 06/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/023,616

Applicant(s)

KODOKIAN ET AL.

Examiner

Terressa M. Boykin

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

Response to Arguments

Applicant's arguments filed 1-14-5 have been fully considered but they are not persuasive.

Applicants' claims remain so broadly set forth that the claims continue to be interpreted by the Examiner as anticipated by the references while remaining within the scope of the specification. It should be noted that in order to prosecute the case resourcefully and expediently while giving the applicants the best possible search, it is imperative and practical for the applicants to clarify how the polymer particles are arranged/incorporated/formed or structured therein. Without such clarity of structure, the art of record remains within the scope of the present claims and the applicants arguments although understood and appreciated are moot on those basis.

* It would be beneficial and helpful for the applicants in order to expedite the prosecution of the case to be in position of allowability by using language from the specification or drawn directly from the examples of the specification that would clearly and further specify the claimed language without, of course, unfairly limiting applicants intended invention.

Further, the recited "substantially" would permit or include structures outside of the scope of the intended invention. Note also that the process should at least recite clear, active steps and any *process parameters necessitated by the specification* so that the claim will "clearly set out and circumscribe a particular area with a reasonable degree of precision and particularity, In re Moore, 169 USPQ 236, and make it clear what subject matter the claim encompasses, as well as makes clear the subject matter from others would be precluded. In re Hammack 166 USPQ 204.

35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over USP 5716558 see abstract, cols. 1 line 50 through col. 4 line 26, cols 16 and 17 and example 1 in col. 25 lines 15 though 44 further in view of USP 5105843.

Applicant's claims relate to a process for producing substantially rounded thermosetting or thermoplastic polymer particles and to a device used to make such. The process includes forming a mixture of polymer pellets with at least one surfactant in an aqueous medium, rapidly melting the polymer pellets under plug flow and plug free heating conditions, shearing the melted pellets into the polymer particles, and rapidly cooling the polymer particles under plug free cooling conditions. Thermosetting particles can include a blend of thermosetting polymers and crosslinking agents. The device provides for plug free conditions to ensure high production rates with substantially no clogging in the polymer conveying and polymer shearing means used in the device. The plug flow conditions ensure more uniform and predictable shearing conditions, since the polymer pellets under the plug flow condition results in substantially no pellet-to-pellet variation in the pellet temperature. As a result, the coatings resulting from the use of these polymer particles have predictable and uniform powder coating properties. The process produces aqueous polymer particle slurry, which if desired, may be converted into polymer powder by removing water. The polymer particles are particularly suited for powder coatings in automotive OEM and refinish applications, and industrial coatings.

US 5716558 disclose a method for producing coating powders catalysts and drier water-borne coatings by spraying compositions with compressed fluids.

(8) In one embodiment, this invention relates to a process for forming solid particulates by spraying a liquid solvent-borne composition, which comprises:

(1) forming a liquid mixture in a closed system, said liquid mixture comprising:

Art Unit: 1711

(a) a solvent-borne composition comprising:

(i) a nonvolatile materials fraction which is solid or capable of becoming solid, which is capable of being sprayed, and which is capable of forming solid particulates by solvent evaporation when sprayed and

(ii) a solvent fraction which is sufficiently volatile to render said solvent-borne composition capable of forming solid particulates when sprayed in (2); and

(b) at least one compressed fluid in an amount which when added to (a) renders said liquid mixture capable of forming a substantially decompressive spray in (2), wherein the compressed fluid is a gas at standard conditions of 0.degree. Celsius and one atmosphere pressure (STP); and

(2) spraying said liquid mixture at a temperature and pressure that gives a substantially decompressive spray by passing the mixture through an orifice into an environment suitable for forming solid particulates by solvent evaporation, wherein the spray has an average particle size greater than about one micron.

Although, the reference as a whole does not focus its discussion on the process of making the particles per se for the purpose of anticlogging etc., the reference does point out that such is a problem in the art and that the method as disclosed elevates that problem. Note in col. 16 line 58 through col. 17 line 6 that the reference acknowledges that the physical form of the particle is important and that the physical property of the solid content leads to more frequent clogging of piping and instrumentation as well as to a poorly dispersed product. Note further that the reference states in col. 16 line 17 that circular or reasonably round particles may be produced on a large scale without the problems commonly known in the art. The reference also discloses that the composition may contain conventional additives, which are typically utilized in water-borne coatings. For example, pigments, pigment extenders, metallic flakes, fillers, surfactants, cross-linking agents, plasticizers, and mixtures thereof, may all be utilized.

The reference discloses a preparation of a substantially round polymer particle which wherein the mixture contains an aqueous medium, a surfactant, a heating process and a cooling process. The reference does not disclose that the mixture is specifically produced under "plug free conditions". However, the reference does disclose that the process as a whole produces plug and clog free spray. . Note cols. 16 through 17.

Note however, in view of **US 5105843** discloses methods and apparatus for adding one or more fluids to another while substantially preventing the precipitation of one or more dissolved solids contained within a first fluid when being added to a second fluid

Art Unit: 1711

containing at least one non-solvent component for the one or more dissolved solids. More specifically, the present invention, is directed to improved methods and apparatus for forming a completely mixed, sprayable coating composition mixture while substantially avoiding undesirable precipitation of solids and consequential system plugging. The resultant admixed properly proportioned fluid mixture can then be sprayed onto a substrate to form the desired coated product. Specifically, the reference 5105843 discloses a method for substantially preventing the precipitation of one or more dissolved solids contained within a first fluid when being added to a second fluid containing at least one non-solvent component for the one or more dissolved solids comprising:

- a) passing the first fluid containing the one or more dissolved solids through a first conduit as a laminar flow as determined by its Reynolds number; and
- b) introducing the second fluid containing the at least one non-solvent component as a core of fluid within the first fluid such that the second fluid is completely surrounded by the first fluid, wherein the second fluid is introduced having a Reynolds number of less than about 3000.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to produce a substantially round polymer by employing the disclosure as noted in **USP 5716558** which specifically addresses the benefits of a circular particle as well as the process as disclosed by the reference to produce a clog free substance since such is specifically stated in the reference as being beneficial for such. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to produce a substantially round polymer by employing the process as disclosed in the **USP 5105843** by the reference to produce a clog free apparatus since such is specifically addressed therein.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1711

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is (571-272-1700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 1711

tmb


Examiner Terressa Boykin
Primary Examiner
Art Unit 1711